HORAK, Ludvik

New technological trends in aircraft design. Stroj vyr 12 no.4:300 Ap'64.

1. Strojirny prvni petiletky, Kunovice.

HORAK, Lujza

The role of beer and soft beverages in the fight against alcoholism.
Elelm ipar 13 no.11:344-346 N '59.

1. Fovarosi Vegyeszeti es Elelmiszervizsgalo Intezet.

HORAK, M.; SMEJKAL, J.; FARKAS, J.

Infrared spectra of compounds containing a cyclopropane ring. Coll Cz Chem 28 no.9:2280-2294 S '63.

1. Institute of Organic Chemisry and Biochemistry, Czechoslovac Academy of Scinsces. Prague.

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JICHA, J.; JIRKALOVA, V.; HORAK, M.; Central Laboratory, Faculty Hospital, Krajsky Institute of National Health (Ustredni Laborator Fakultni Nemocnice KUNZ), Hradec Kralove, Head (Prednosta) Dr J. JICHA.

"Contribution to the Determination of Aspartic Aminotransferase (GOT) (2.6.1.1.) and Alanine Transferase (GPT) (2.6.1.2.)."

Prague, Casopis Lekaru Ceskych, Vol 105, No 33, 19 Aug 66, pp 883 - 886

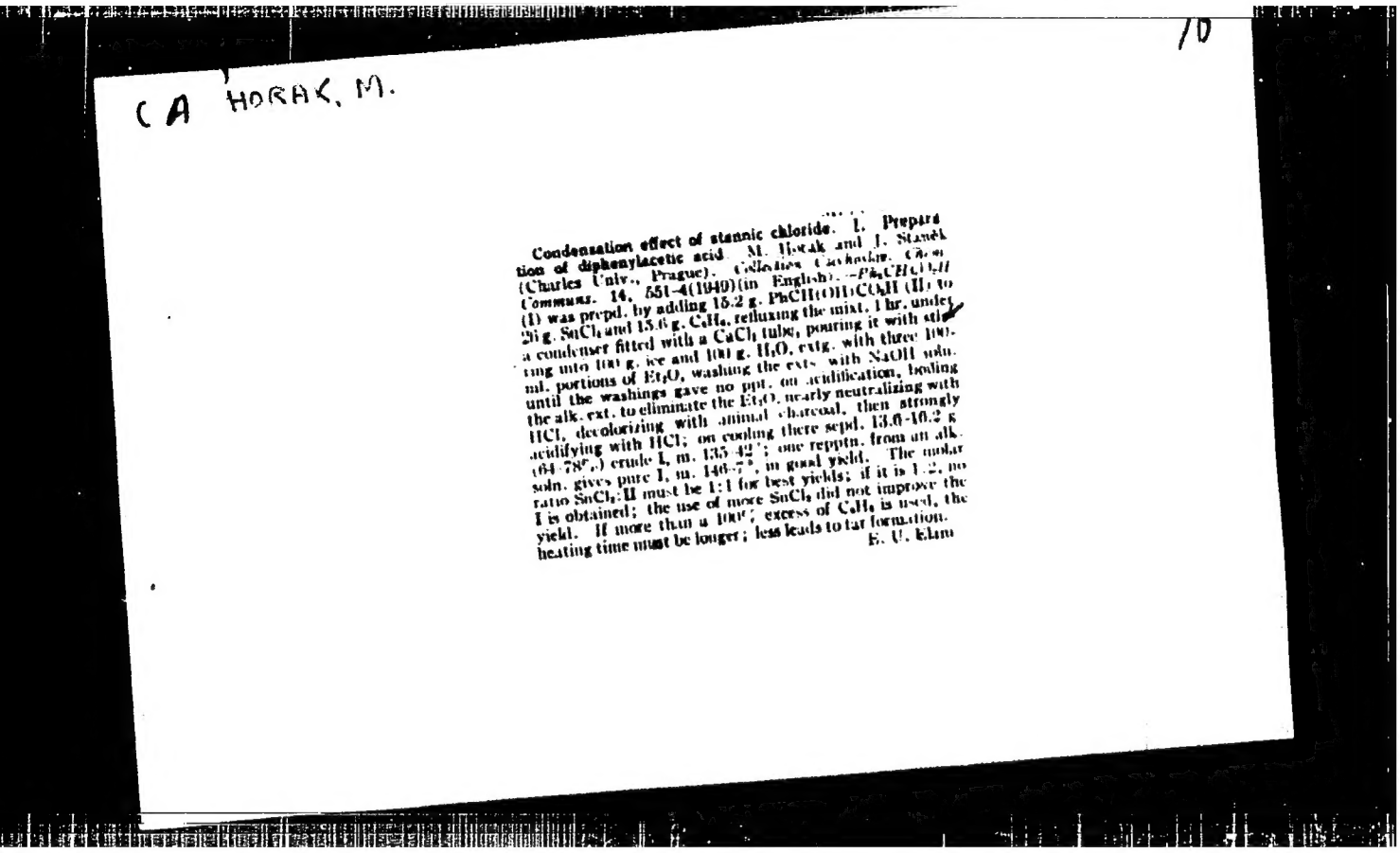
Abstract [Authors' English summary modified]: A modification of the method described by Reitman and Frankel is presented. The amount of serum used is decreased, and the incubation temperature reduced to 26°C. The enzyme reaction under these conditions has a linear course in normal and high values, and it is not necessary to repeat the analyses. Concentration of dinitrophenylhydrazine is increased to correspond to the concentration of keto acids in the reaction mixture. 4 Figures, 2 Western, 3 Czech references. (Manuscript received Mar 66).

1/1

HORAK, M.; GUT, J.

Nucleic acid components and their analogues. Pt. 42.
Coll Cz Chem 28 no. 12:3392-3401 D '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.



CA HORAK, M.

10

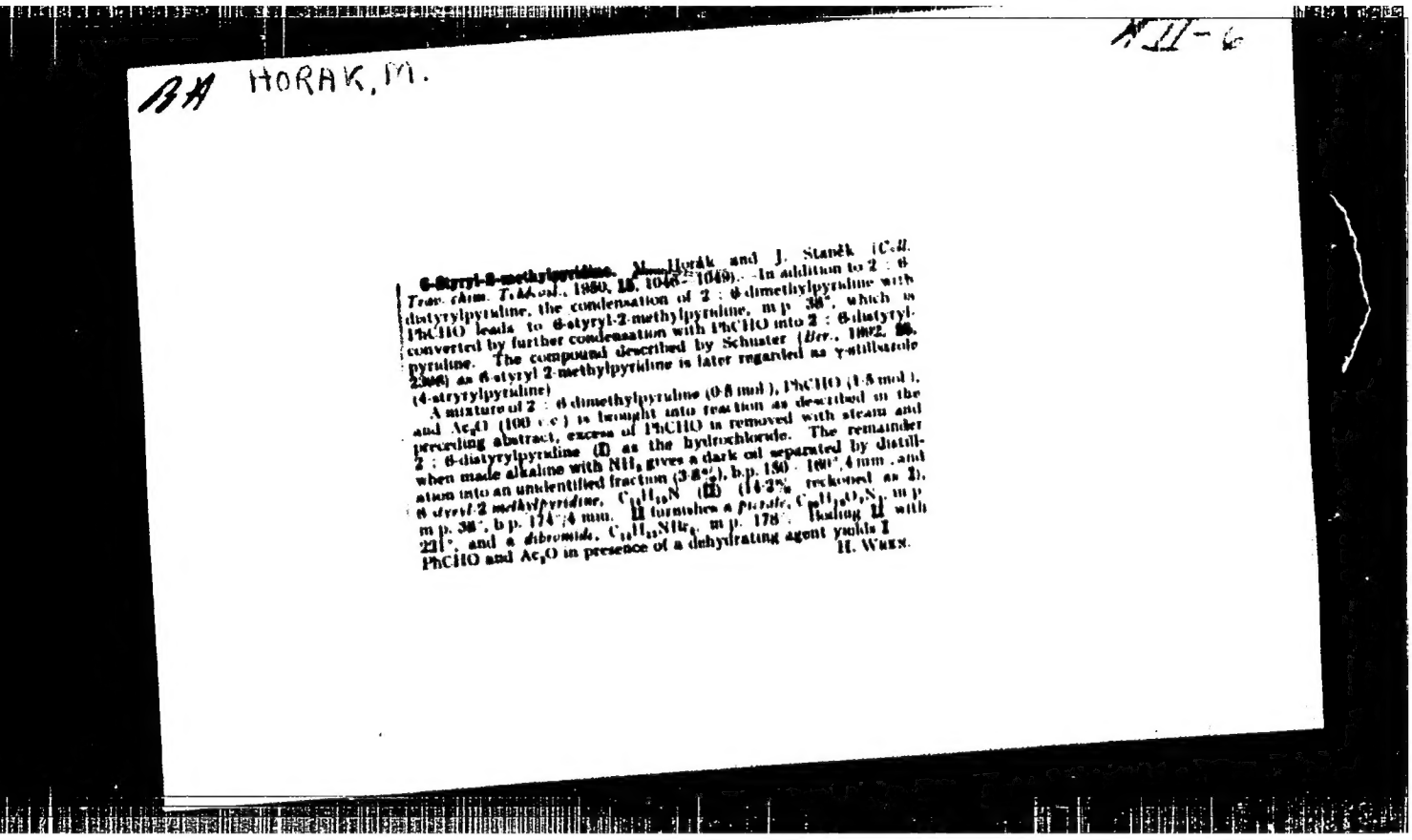
Condensation effect of stannic chloride. I. Preparation of diphenylacetic acid. M. Horak and J. Stanek (Charles Univ., Prague). *Collection Czechoslov. Chem. Communs.* 14, 551–4(1949)(in English).—Ph_2CHCO_2H (I) was prepd. by adding 15.2 g. $PhCH(OH)CO_2H$ (II) to 29 g. $SnCl_4$ and 15.6 g. CaH_2, refluxing the mixt. 1 hr. under a condenser fitted with a $CaCl_2$ tube, pouring it with stirring into 100 g. ice and 100 g. H_2O, extg. with three 100-ml. portions of Et_2O, washing the exts. with NaOH soln. until the washings gave no ppt. on acidification, boiling the alk. ext. to eliminate the Et_2O, nearly neutralizing with HCl, decolorizing with animal charcoal, then strongly acidifying with HCl; on cooling there sepd. 13.0–16.2 g. (64–78%) crude I, m. 135–42°; one repptn. from an alk. soln. gives pure I, m. 146–7°, in good yield. The molar ratio $SnCl_4$:II must be 1:1 for best yields; if it is 1:2, no I is obtained; the use of more $SnCl_4$ did not improve the yield. If more than a 100% excess of CaH_2 is used, the heating time must be longer; less leads to tar formation.

E. U. Kilmi

HORÁK, M.

New application of the Perkin reaction. J. Staněk and M. Horák (*Coll. Trav. chim. Tchécosl.*, 1950, **15**, 1037–1045).—By use of Ac_2O and KOAc in presence of a small amount of I the condensation of PhCHO with active Me groups on a heterocyclic nucleus is effected. The yields are good and the process is more convenient than those described in the literature. In this way 2- and 4-stilbazole, 2 : 6-distyryl- and 6-styryl-2-methyl-**pyridine**, 2-styrylquinoline, 3-benzylideneoxindole, and chalkone are prepared. PhCHO is not condensed with camphor, hydrocarbons (arenaphthene, fluorene, CH_2Ph_2), and nitrotoluenes.

Heating a mixture of 2 : 6-dimethylpyridine (I) (0·2 mol.), PhCHO (0·42 mol.), and Ac_2O to boiling for 20 hr. gives 2 : 6-distyrylpyridine (II), m.p. 66·5°, in 21·5% yield which is raised to 25% by addition of anhyd. $ZnCl_2$. A mixture of I (0·2 mol.), PhCHO (0·6 mol.), Ac_2O (0·6 mol.), KOAc (0·2 mol.) and a trace I heated to boiling for 40 hr. furnishes II (74%), $CHPh:CH\cdot CO_2H$ (7·3%), and 6-styryl-2-methylpyridine. II forms a sparingly sol. *hydrobromide*, $C_{21}H_{19}NCl$, m.p. 211°, and is transformed by Br in boiling CCl_4 into 2 : 6-*di*-(1' : 2'-*dibromo*-2'-*phenylethyl*)-*pyridine*, $C_{21}H_{17}NBr_4$ (91%), m.p. 179°. Heating to boiling for 4 hr. a mixture of technical 2-picoline (~0·5 mol.), PhCHO (0·7 mol.), Ac_2O (0·5 mol.), and KOAc (50 g.) in presence of a trace of I furnishes 2-styrylpyridine (III) (80%), m.p. 88°. Comparison between the different samples of stilbazole obtained from technical 3-picoline is best effected via the ethiodides which are prepared by heating III and Et_2O at 100°. The crude product gives yellow-brown crystals, m.p. 208°, which are decolorised when exposed to sunlight and converted into colourless compound of the same composition. 3-Picoline purified via the quaternary salt with 1 : 2 : 4-$C_6H_3Cl(NO_2)_2$ does not give a trace of condensation product and is regenerated almost quantitatively, whereas the yield of $CHPh:CH\cdot CO_2H$ is increased considerably. Boiling a mixture of technical 3-picoline PhCHO, Ac_2O, KOAc, and a trace of I for 40 hr. yields $CHPh:CH\cdot CHO$ (29%), distyrylpyridine, and 4-styrylpyridine, m.p. 125°; the last named substance forms an *ethiodide*, $C_{15}H_{16}NI$, m.p. 183°, crystallising in various forms which are not mutually depressing, and a *picrate*, $C_{21}H_{16}O_7N_4$, m.p. 221°. A boiling mixture of 2-methylquinoline (0·1 mol.) (purified through the additive compound with $ZnCl_2$), PhCHO (0·15 mol.), Ac_2O (0·15 mol.), KOAc (0·1 mol.), and a little I gives after 40 hr. 2-*styrylquinoline*, $C_{17}H_{13}N$, m.p. 98°, in 70% yield. Boiling oxindole with a similar mixture for 9 hr. affords an 81% yield of 3-benzylideneoxindole, m.p. 176°. Analogously, COPhMe and PhCHO are condensed to chalkone (dibromide, m.p. 157·5°). A condensation product is not obtained from camphor, CH_2Ph_2, fluorene, acenaphthene, *o*- or *p*-$NO_2\cdot C_6H_4\cdot OH$, or 2 : 4 : 1-$(NO_2)_2C_6H_3\cdot OH$. H. WREN.



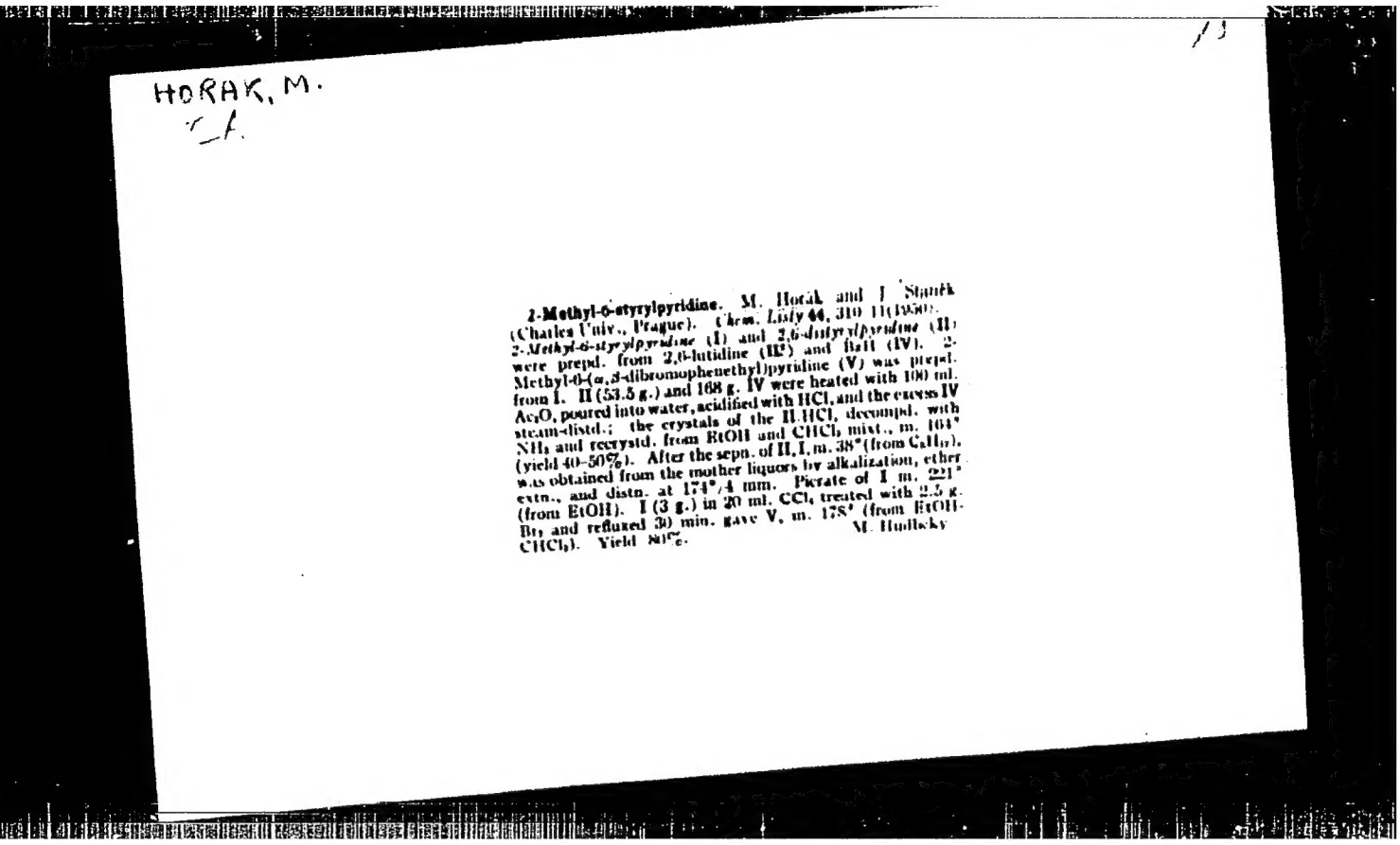
BA HORAK, M.

XII-6

6-Styryl-2-methylpyridine. M. Horák and J. Staněk (*Coll. Trav. chim. Tchécosl.*, 1960, **25**, 1046–1049).—In addition to 2 : 6-distyrylpyridine, the condensation of 2 : 6-dimethylpyridine with PhCHO leads to 6-styryl-2-methylpyridine, m.p. 38°, which is converted by further condensation with PhCHO into 2 : 6-distyrylpyridine. The compound described by Schuster (*Ber.*, 1902, **35**, 2306) as 6-styryl 2-methylpyridine is later regarded as γ-stilbazole (4-styrylpyridine).

A mixture of 2 : 6-dimethylpyridine (0·8 mol.), PhCHO (1·8 mol.), and Ac_2O (100 c.c.) is brought into reaction as described in the preceding abstract, excess of PhCHO is removed with steam and 2 : 6-distyrylpyridine (I) as the hydrochloride. The remainder when made alkaline with NH_4 gives a dark oil separated by distillation into an unidentified fraction (3·8%), b.p. 150°–180°/4 mm., and *6-styryl-2-methylpyridine*, $C_{14}H_{13}N$ (II) (14·3% reckoned as I), m.p. 38°, b.p. 174°/4 mm. II furnishes a *picrate*, $C_{20}H_{16}O_7N_4$, m.p. 221°, and a *dibromide*, $C_{14}H_{13}NBr_2$, m.p. 178°. Boiling II with PhCHO and Ac_2O in presence of a dehydrating agent yields I.

H. Wren.



HORAK, M.
C.A.

2-Methyl-6-styrylpyridine. M. Horák and J. Stanek (Charles Univ., Prague). *Chem. Listy* **44**, 310-11(1950). 2-*Methyl-6-styrylpyridine* (I) and 2,6-*distyrylpyridine* (II) were prepd. from 2,6-lutidine (III) and BzH (IV). 2-Methyl-6-(α,β-dibromophenethyl)pyridine (V) was prepd. from I. II (53.5 g.) and 168 g. IV were heated with 100 ml. Ac_2O, poured into water, acidified with HCl, and the excess IV steam-distd.; the crystals of the II·HCl, decompd. with NH_3 and recrysta. from EtOH and $CHCl_3$ mixt., m. 164° (yield 40–50%). After the sepn. of II, I, m. 38° (from C_6H_{12}), was obtained from the mother liquors by alkalization, ether extn., and distn. at 174°/4 mm. Picrate of I m. 221° (from EtOH). I (3 g.) in 20 ml. CCl_4 treated with 2.5 g. Br_2 and refluxed 30 min. gave V, m. 178° (from EtOH-$CHCl_3$). Yield 80%. M. Hudlický

[illegible], L.

[illegible]
"Composing Combinations By The Use Of Torsi [illegible]."
p. 147. (Prace. Vol. [illegible], No. 137-144, 1954, Brno.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3. Librar. of Congress, March 1954, Uncl.

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Czechoslovakia/ Organic Chemistry - Naturally occuring substances and their synthetic analogs E-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11823

Author : Kovacs Odon, Herout Vlastimil, Horak Milan, Sorm Frantisek
Title : On Terpenes. LXVII. Hydrogenation Products of Santonin and Alantolactone

Orig Pub : O terpenech. LXVII. Hydrogenacni produkty santoninu a alantolaktonu. Chem listy, 1955, 49, No 12, 1856-1869 (Czech); Sb. chekhosl. khim. rabot, 1956, 21, No 1, 225-239 (English)

Abstract : On hydrogenation of santonin (I) under different conditions, are formed three isomers of 3-ketosantonolide-5,12 (IIa, b and c), and on further hydrogenation there are obtained the corresponding 3-hydroxysantanolides-5,12 (IIIa, b, c). On reduction according to Clemensen, IIa and IIc give santonolide-5,12 (IVa), while IIb is converted to santonolide-5,12 [sic] (IVb). On interaction of IIa, b and c with ethylenedithiol (V) there are obtained ethylene thioketals, which on desulfurization with skeleton Ni form, respectively, IVa, b and c. IIc is readily isomerized to IIa. $LiAlH_4$ reduces IVa to santandiol-5,12 (VI), and alantanolide-5,12 (VII) to alantandiol-5,12 (VIII). Presented are the

Card 1/5

Czechoslovakia/ Organic Chemistry - Naturally occuring substances and their synthetic analogs E-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11823

infrared spectra of IVa, b and c, VII, IIa, b and c, IIIc, VI, VIII, 5,12-oxidosantan (IX) and alanten-Δ (?)-ol-12 (X). On hydrogenation of 0.1 mole I in 200 ml CH_3OH with $Pd/BaCO_3$ IIa is obtained, yield 74%, MP 158°, $[\alpha]^{18}D$ +30° +1° (c 5.0) (all $[\alpha]D$ determined in chloroform); mother liquors of IIa are evaporated, residue dissolved in aqueous NaOH, after acidification ether is used to extract 3-keto-5-hydroxy-santanic acid (XI), yield 10.8%, MP 190-192° (from 50% CH_3OH), $[\alpha]^{20}D$ +20.7° ± 1° (c 7.45). Solution of 2 g XI and 0.5 g p-toluene sulfonic acid (XII) in 50 ml CH_3COOH held for 5 hours, diluted with water and extracted with ether to recover IIb, yield 89%, MP 103-105° (from 70% CH_3OH), $[\alpha]^{21}D$ + 11.3° ± 1° (c 3.88). By hydrogenation of IIb in glacial CH_3COOH with PtO_2 is obtained IIIb. MP 213-215° (from CH_3OH), $[\alpha]^{20}D$ -8.5° ± 1° (c 4). 4 g I are hydrogenated in CH_3OH with PtO_2 (120 atm, 20°), to get IIIc, yield 44%, MP 135° (from 50% CH_3OH), $[\alpha]^{20}D$ + 42.7° ± 1° (c 3.97). Mixture 0.66 mole CrO_3, 0.1 ml water, 1 mole IIIc and 6 ml CH_3COOH left standing 20 hours, diluted with water (6 ml) and several drops alcohol, evaporated, and ether extraction

Card 2/5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11823

gives IIc, MP 145-146°, $[\alpha]^{20}D$ + 77.5 ± 2° (c 5.12). 0.01 mole IIa reduced according to Clemenensen (8 g Zn; 21 ml HCl; 1:2, boiled 12 hours), ether extraction gives IVa, yield 93%, MP 154° (from 90% alcohol), $[\alpha]^{20}D$ + 26.8 ± 1° (c 4.45). In the same manner from IIb is obtained IVb, yield 70%, MP 86-87° (from alcohol), $[\alpha]^{20}D$ -27.9° ± 2° (c 3.8). 100 mg IIc boiled 12 hours with 4 ml HCl (1:2), to get 65 mg IIa. Mixture of 0.01 mole IIa, 50 ml glacial CH_3COOH, 0.01 mole V and 0.96 g XII, held 3 hours at 20°, poured on ice, to get ethylene thioketal IIa, yield 99%, MP 195-196° (from ethyl acetate), $[\alpha]^{20}D$ + 44.7° ± 1 (c 4.95), which (0.005 mole) on boiling for 8 hours in 120 ml dioxane with 15 ml skeleton Ni I gives IVa with yield 98%. Analogously from IIb is prepared ethylene thioketal, yield 81%, MP 122-123° (from CH_3OH) $[\alpha]^{20}D$ -11.08° ± 1° (c 6.32), and from it IVb, yield 95%. Under the same conditions IIc is converted over the ethylene thioketal (yield 95%, MP 166-167° (from ethyl acetate), $[\alpha]^{20}D$ + 37.9° ± 1° (c 3.95))into IVc, MP 137-139° (following crystallization from alcohol and di-iso-propyl ether, and sublimation (12 mm,

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11823

110°)), $[\alpha]^{20}D$ + 92.2 ± 2° (c 3.73). Mixture of 0.1 mole $LiAlH_4$, 0.05 mole IVa and 600 ml ether is stirred 2 hours, decomposed with 6 ml water and 200 ml 25% H_2SO_4, and VI is extracted with ether, yield 98%, MP 154-155° (from benzene), $[\alpha]^{20}D$ 25.3° ± 1° (c 4.12 in chloroform-CH_3OH, 1:1). 2 mole VI dissolved at 0° in 5 ml $SOCl_2$, after 1.5 hour $SOCl_2$ driven off, following chromatography on Al_2O_3 (petroleum ether) there are obtained 180 mg cyclic sulfite of VI, MP 75-76° (from alcohol), $[\alpha]^{20}D$ -253° ± 2° (c 2.84), which is saponified in aqueous-alcoholic NaOH to get VI. Boiling for 30 minutes of 2.5 mmole VI with 0.1 g XII in 12 ml C_6H_6 gives IX, yield 84%, BP 132-133°/8 mm, $n^{20}D$ 1.4972, d_4^{20} 0.9788, $[\alpha]^{20}D$ -39.54°. On steam distilling 3 kg of Inula Helenium roots, crystallizing the distillate from 70% alcohol and hydrogenating the product at 45° with PtO_2, in ethyl acetate, there are obtained 16.3 g of VII, MP 147-147.5° (from alcohol), $[\alpha]^{18}D$ + 14.6 ± 1° (c 1.92). On reduction of VII with $LiAlH_4$ VIII is obtained, yield 93%, MP 111-112° (from benzene-petroleum ether, 1:3), $[\alpha]^{20}D$ -6.2 ± 1° (c 4.55). VIII is converted to cyclic sulfite (like VI) yield 47%, MP

Czechoslovakia/ Organic Chemistry - Naturally occuring substances and their synthetic analogs E-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11823

114-116° (from alcohol) $[\alpha]^{20}D$ - 52.4° ± 2° (c 3.62). By dehydration under conditions used for IX, there is obtained from VIII the X, yield 88%, BP 133-135°/8 mm, $n^{20}D$ 1.5078, d_4^{20} 0.9879, $[\alpha]^{20}D$ - 32.7° ± 2°.

Card 5/5

HORÁK, Milan

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26971.

Author : Šorm, František, Horák, Milan.
Inst :
Title : Steroids. XXII. Preparation of 3-Keto-16β-oxyandrostene-4 and 3-Keto-16ξ-oxy-16ξ-methyl-androstene-4.

Orig Pub: Chem. listy, 1956, 50, No. 2, 282 - 287; Sb. chekhoslov. khim. rabot, 1956, 21, No. 4, 926 - 937.

Abstract: By the reduction of acetate of Δ^5-androstenole-3β-one-16 (I), 3-acetate of Δ^5-androstendiole-3β, 16α (II) and 3-acetate of Δ^5-androsten-diole-3β,16β (III) were obtained, and the corresponding dioles (IV) and (V) were obtained

Card 1/8

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26971.

after their saponification. 16-Benzoate of II (VI) and 16-benzoate of III (VII) were produced from II and III, these benzoates produced 16-benzoate of IV (VIII) and 16-benzoate of V (IX) correspondingly after partial saponification. By the oxidation of IX according to Oppenauer, benzoate of Δ^4-androstenole-16β-one-3 (X) was obtained, which produced Δ^4-androstenole-16β-one-3 (XI) after saponification. The configurations of the produced substances were established by the hydrogenation of IV to androstandiole-3α,16α (XII) with its following benzoylation into the known dibenzoate XII (XIII) (see RZhKhim, 1956, 19357). 3 g of I are hydrogenated in CH_3OH on powdered

Card 2/8

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26971.

Ni, the obtained mixture of II and III is left to stay 24 hours with 10 ml of dioxane, 1.5 ml of C_6H_5COCl and 1.5 ml of pyridine. First VI is received by chromatographing the benzene solution with 100 g of Al_2O_3, yield 7.6%, melting point 201 to 202° (from alc.), $/\alpha/^{20}D$ -57° (c 2.08), after that VII is received, yield 34%, melting point 137 to 138°, $/\alpha/^{20}D$ -56.1° (c 2.27). A mixture of II and III is obtained by boiling the mixture of 383 mg of I, 100 ml of absolute ether and 400 mg of $LiAlH_4$ for 2 hours, decomposition of the complex with diluted H_2SO_4 and evaporating the ether extract; the mixture

Card 3/8

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26971.

equ. of NaOH and 368 ml of absolute CH_3OH is left staying at 20°, the substance is extracted with ether after neutralization, washed with HCl acid and $KHCO_3$ and chromatographed with Al_2O_3, IX is washed out with ether, yield 82%,

melting point 153 to 154°(from CH_3OH), $/\alpha/^{20}D$ -38.6° (c 1.92). VII is produced from VI in

the same way, yield 56%, $/\alpha/^{20}D$ -62.7 (c 1.66). 20 ml of solvents are distilled off from the mixture of 500 mg of IX, 40 ml of toluene and 10 ml of cyclohexanone, 3 ml of 10%-ual solution of Al isopropylate in toluene are added, 15 ml more are distilled off in 2 hours' time, the

Card 6/8

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26971.

remainder is distilled with steam, and X is extracted from the residue with chloroform. X is purified with Girard's reagent T, yield 55%, melting point 134 to 135° (from benzene), $[\alpha]^{20}D$ +46.4° (c 1.94). XI is received by boiling 200 mg of X with 20 ml of methanol 1 NaOH for 2 hours, yield 70%, melting point 168 to 170° (from benzene), $[\alpha]^{20}D$ +86.2° (c 2.12). 2 g of I in 150 ml of anisole are condensed (5 hours, 110°) with $MgICH_3$ (of 12 g of Mg) and Δ^5-16ξ-methylandrostenediole-3β,16ξ (XIV) is obtained, yield 71%, melting point 169 to 170°, $[\alpha]^{20}D$ -77 (c 2.62). Oxidizing XIV in

Card 7/8

HORAK, M.

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

Author : Ognyanov, I., Ivanov, D., Herout, V., Horak, M., Klive, J., and Sorm, F.

Inst :

Title : Chemistry of the Terpenes. LXXXVII. Structure of Germacrone, the Crystalline Component of Bulgarian Medicinal Volatile Oil.

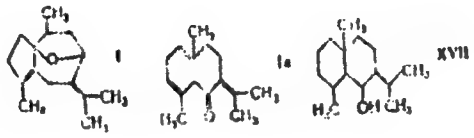
Orig Pub: Chem Listy, 52, No 6, 1163-1173 (1953) (in Czech)

Abstract: The authors have shown that the principal component of Bulgarian medicinal essential oil (Geranium macrorhizum L.), previously designated germacrol, does not have the oxide structure (I) [see inset below], as

Card : 1/12

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.



Card : 2/12

G-47

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

previously assumed, but that of the ketone (Ia). The authors propose the name Germacrone for Ia. The structure of Ia has been proved spectroscopically and by chemical reactions. The hydrogenation of I in glacial CH_3COOH over a Pt (from PtO_2) catalyst gives a liquid product (II) which on reduction with LiH_4 gives hexahydrogermacrol (III). The oxidation of II with CrO_3 in glacial CH_3COOH gives hexahydrogermacrone (IV). IV like Ia does not form a semicarbazone and 2,4-dinitrophenylhydrazone derivative. The reduction of I by aluminum isopropylate or by $LiAlH_4$ gives germacrol (V) which on dehydration yields a hydrocarbon (VI). The dehydrogenation of V

Card : 3/12

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

or of VI with S gives guaiazulene (VII). The hydrogenation of VI in glacial CH_3COOH over Pt (from PtO_2) with 4 moles of H_2 gives elemane (VIII); the hydrogenation of V under the same conditions gives selinane (IX). The hydrogenation of I over Pt (from PtO_2) in alcohol gives α , β -unsaturated tetrahydrogermacrone (X). The reduction of X by $LiAlH_4$ gives tetrahydrogermacrol (XI) which on hydrogenation in glacial CH_3COOH over Pt (from PtO_2) gives the saturated hydrocarbon germacrane (XII) and III. The IR spectrum of XII differs from the spectra of saturated sesquiterpenic hydrocarbons and resembles the spectra of humulane and farnesane (see RZhKhim, 1953, 8544). The dehydra-

Card : 4/12

G-48

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

tion of III gives a hydrocarbon (XIII). The ozonation of X yields 1 mol of acetone, while the ozonation of I gives 1.5-1.6 mol of acetone. The oxidation of I by $KMnO_4$ in acetone gives $(COOH)_2$ and levulinic acid. The action of C_2H_5ONa on I in the cold gives crystalline isogermacrone (XIV). The hydrogenation of XIV in glacial CH_3COOH over Pt (from PtO_2) gives IV; when the hydrogenation is carried out in alcohol, tetrahydrogermacrone (XV) is obtained. The acid isomerization of I yields a liquid ketone (XVI) which on hydrogenation over Pt (from PtO_2) in glacial CH_3 COOH with subsequent reduction by LiAlH gives selinanone (XVII) [sic: nomenclature]; oxidation of the

Card : 5/12

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

latter product yields selinanone (XVIII) [sic]. The dehydration of XVII followed by hydrogenation of the product obtained gives IX. Ia, mp 56-57° (from CH_3OH), $[\alpha]_D^{20}$ 0° (chloroform). The hydrogenation of I (278 mg) in glacial CH_3COOH over 3[illegible] mg of freshly reduced PtO_2 gives II, bp 134-135°, n_D^{24} 1.4774, d_4^{24} 0.9162. The reduction of 2 gms II by $LiAlH_4$ in ether followed by chromatography on Al_2O_3 (active towards I-II) [sic] gives III, yield 1.8 gm, bp 108.5-109.5°/0.05mm. The oxidation of 2 gms II with an excess of CrO_3 in glacial CH_3COOH for 20 min at about 20° followed by chromatography on Al_2O_3 (active towards I-II) gives IV, bp 131-136°/7 mm, n_D^{25} 1.4770, d_4^{15} 0.9225. The

Card : 6/12 G-49

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Abs Jour: Ref Zhur-khim., No 11, 1959, 38775.

duction of 2 gms I by aluminum isopropylate (from 1.0 gm Al) gives (after chromatography) 1.35 gms V, bp 108-110°/0.15 mm. The reduction of 0.6 gm I by $LiAlH_4$ gives V, bp 128°/0.8 mm, n_D^{15} 1.5297. When 3 gms V and 7 ml of 100% HCOOH are heated quickly to boiling, VI is obtained, yield 1.5 gm, bp 124.5-127°/11 mm, n_D^{22} 1.5250, d_4^{22} 0.9115. When 0.4 gms V is heated to boiling and chromatographed on Al_2O_3 (active towards I-II) 0.25 gm VI is obtained. When 1 gm V (or VI) and 0.25 gm S are heated for 30 min at 180°, followed by chromatography on Al_2O_3 (active towards II), 0.25 gm of VII is obtained, trinitrobenzoate derivative mp 151-152°.

Card : 7/12

G

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

The hydrogenation of 312 mg VI in 5 ml glacial CH_3COOH or freshly reduced PtO_2 gives VIII, bp 124°/14 mm, n_D^{22} 1.4681, d_4^{22} 0.8538. The hydrogenation of 390 mg V under the same conditions as described in the last case, followed by chromatography on Al_2O_3 (active towards I-II) gives IX, bp 129-132°/14 mm, n_D^{15} 1.4817, d_4^{15} 0.8939. The hydrogenation of 3 gms I over Pt (from PtO_2) in alcohol (7 days) with 4 mols of H_2, followed by chromatography on Al_2O_3, gives X, yield 2.6 gms, bp 108°/0.8 mm, n_D^{20} 1.5038, d_4^{20} 0.9549. The reduction of 0.90 gm X by $LiAlH_4$ (0.15 gm) gives XI, bp 123-125°/2.5 mm. The hydrogenation of 500 mg XI in glacial CH_3COOH over Pt (from PtO_2) followed

Card : 8/12

G-50

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

by chromatography of the product obtained on Al_2O_3 (active towards I-II) and elution with petroleum ether, gives XII, yield 320 mg, bp 132-135°/22 mm, n_D^{20} 1.4717, d_4^{20} 0.8538; elution with alcohol gives 130 mg of III. The dehydration of 900 mg III with 1.0 gm $KHSO_4$ at 180-200° (30 min) gives XIII, yield 750 mg, bp 114-115°/7 mm, $n_D^{?5}$ 1.4799, $d_4^{?}$ 0.8594; the hydrogenation of the latter product (230 mg) over Pt (from 30 mg PtO_2) in glacial CH_3COOH, gives XII, bp 115-117°/8 mm, n_D^{21} 1.4704, $d_4^{?}$ 0.8562. When 15 gms I are treated with C_2H_5ONa (from 2 gms Na and 50 ml alc, 12 hrs) gives XIV, yield 9.5 gms bp 131-134°/1mm, mp 50-52°, 2,4-dinitrophenylhydrazone

Card : 9/12

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

mp 183-183.5°. The hydrogenation of XIV (700 mg) in glacial CH_3COOH by the same procedure as that used for I, followed by oxidation of the reaction product by CrO_3 in glacial CH_3COOH and purification by chromatography on Al_2O_3 (active towards I-II) gives IV, bp 120-121°/5 mm, $n^{17.5}D$ 1.4760, $d^{17.5}_4$ 0.9222. The hydrogenation of XIV (500 mg) over Pt (from PtO_2) in alcohol (of procedure used for I), followed by reduction of the reaction product by $LiAlH_4$ in other and chromatography on Al_2O_3 (active towards I-II) gives 30 mg XII, bp 130-132°/20 mm, $n^{20}D$ 1.4720, d^{20}_4 0.8576. When 2 gms XIV are reduced by $LiAlH_4$ (0.4 gm) in ether solution, XV

Card : 10/12

G-51

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

is obtained, bp 129-131°/1.1 mm, mp 64-66° (from alcohol). When a mixture of 10 gms I, 5 ml H_2SO_4, and 20 ml alcohol is heated to 60°, XVI is obtained, yield 7.75 gms, bp 130.5-138.5°/2.5 mm, n_D^{23} 1.5270, d_4^{23} 0.9840; XVI forms two 2,4-dinitrophenylhydrazone derivatives melting at 195-196° and 184-185°. The hydrogenation of 2 gms XVI over Pt (from 50 mg PtO) in glacial CH_3OH gives XVII, yield 1 gm, mp 107.5-108.5° (from alc). The oxidation of 150 mg XVII by CrO_3 in glacial CH_3COOH, followed by chromatography of the product on Al_2O_3 (active towards I-II), gives XVIII, n_D^{20} 1.4894, d_4^{20} 0.9648. The dehydration of 300 mg XVII by heating in 5 ml 100% HCOOH

Card : 11/12

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G

Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

for 5 min to boiling, followed by chromatography of the reaction products on Al_2O_3 (active towards I-II) (from petroleum ether, 150 mg, bp 109.5°/9 mm) [sic], and hydrogenation over Pt (from PtO_2) in glacial CH_3COOH gives IX, bp 110-112°/1.5 mm, n_D^{17} 1.4840, d_4^{17} 0.8912. The UV spectra of Ia and X are given together with the IR spectra of Ia, II, IV, X, XII, XVIII, and IR absorption curves for Ia, IX, and XII. -- L. Novotny.

Card : 12/12

Relation between infrared and ultraviolet absorption frequencies. O. Exner, M. Horák, and J. Pliva (Czechoslovak Acad. Sci., Prague). *Chim. & Ind.* (London) 1958, 1174–5. —Infrared CO stretching frequencies ν_{CO} (measured in dioxane) can be related to the ultraviolet *K*-band frequencies ν_K (measured in EtOH) approx. by $\nu_K = A + B\nu_{CO}$ (A = 53.54 × 10³ cm.⁻¹ and B = −23.08) for the series BzR where R = NMe₂, NHOH, NHNH₂, NH₂, OH, OMe, OEt, OPh, ON:CMe₂, ONCOPh, and for Bz₂O. By using Taft's values (cf. *C.A.* 51, 9907h) for the inductive and mesomeric contributions σ_I and σ_R, and substitution in his equations $\nu = \nu^0(1 + a_I\sigma_I + a_R\sigma_R)$ separately for ν_{CO} and for ν_K gives $a_{I(CO)} = 0.1003$, $a_{R(CO)} = 0.0284$, ν^0_{CO} = 1705.3 cm.⁻¹, and $b_{I(K)} = 0.0458$, $a_{R(K)} = -0.1170$, and ν^0_K = 40.74 × 10³ cm.⁻¹, so that $\sigma_I = 0.570 + 0.603\ \sigma_R$, which holds for R = OX and NXY but not for R = H or Me, i.e., only for the carboxylic acid deriv. W. Klyne

HORAK, M

Distr: 1E3d

Infrared spectroscopy of carboxylic acid derivatives. Milan Horák and Otto Exner (Československá akad. věd, Prague). *Chem. listy* 52, 1461-9(1958).—Valence vibrations of the CO band were measured in 50 derivs. under standard conditions in dioxane. The frequency values in the individual compds. change regularly and analogically in dependence on the function group and can be thus expressed by an equation by means of experimentally detd. consts. The position of the CO max. is given by a straight line equation $\nu_{CO} = kx + q$, where k is the const. for a certain acid, x is the const. for a certain deriv. and q is the const. mutual to all measured compds. Where $q = 1813.9$ cm^{-1}, k for the following acids is given: CCl_3CO_2H 1.212, $NCCH_2CO_2H$ 1.140, AcOH 1.113, H_2NCO_2H 1.076, p-$O_2NC_6H_4CO_2H$ 1.020, BzOH 1.000, o-$H_2NC_6H_4CO_2H$ 0.875, o-$HOC_6H_4CO_2H$ 0.797. Also, x for various acid derivs. is as follows: bromide 270.8, chloride 264.1, anhydride 251.5, Ph ester 228.1, Me ester 212.4, acid 209.2, Et ester 206.6, amide 178.3, anilide 164.3, hydrazide 159.5, hydroxamic acid 148.7. This relationship can be used to predict the frequencies of further compds. of a given type. Various factors influencing the CO frequency are discussed. The polar effect of a directly bound atom is the most important and thus enables to differentiate compds. having a N- or O-bound acyl in comparison with simple derivs. L. J. Urbánek

7

Derivatives of oximes. V. Determination of the constitution of acyl derivatives of hydroxylamine by infrared spectroscopy. Otto Exner and Milan Horák (Československá akad. věd, Prague). *Chem. listy* 52, 1613-21 (1958); cf. *C.A.* 51, 11901*i*; preceding abstr.—The above equation is valid for acyl derivs. of NH_2OH, the z' values being as follows: hydroxamic acids 148.7; *O*-acylhydroxylamines 218.4; acyl derivs. of acetoxime 233.5; acyl derivs. of aromatic oximes 243.0; *N,O*-diacylhydroxylamines 253.1. It was confirmed that acyl derivs. of oximes have the structure $R^1R^2C{:}NOC(O)R^3$ and hydroxyurea and isohydroxyurea have the structures $H_2NC(O)NHOH$ and $H_2NC(O)ONH_2$, resp. (*C.A.* 51, 10380*i*). Structure *a* also belongs to carbamoyl derivs. (*O*-carbamoylbenzaldoxime, *O*-carbamoylacetoxime) contrary to Conduché (*C.A.* 2 658). *O*-Anthraniloylbenzaldoxime, obtained in 1.07-g yield by heating 1.52 g. *O*-anthraniloylhydroxylamine with 1.1 g. BzH in 5 ml. EtOH to 50° and leaving overnight, gives crystals, m. 143° (1:2 C_6H_6-EtOH). Dropping 41 g. Ac_2O into soln. of 21.9 g. $Me_2C{:}NOH$ in 100 ml. abs. Et_2O and heating the mixt. 1 hr. to boiling gives 25.7 g. *O*-acetylacetoxime, b_{14} 73°, n_D^{20} 1.4363. *O*-Anthranoylacetoxime m. 110° (EtOH); diacethydroxamic acid m. 85° (EtOH); *N*-acetyl-*O*-benzoylhydroxylamine m. 100° (C_6H_6-cyclohexane). L. J. Urbánek

Distr: 4E3d/4E2c(1)

6
2-May
2

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Physical Chemistry. Molecule. Chemical Bond. Molecular Spectra B
ABS. JOUR. : RZKhim., No. 1 1960, No.162

AUTHOR : Horak, M.; Schneider, B.; Bazant, V.
INST. :
TITLE : Organosilicon Compounds. XVI. Molecular Spectra of Methylphenylsiloxanes

ORIG. PUB. : Chem. listy, 1958, 52, No 11, 2048-2055

ABSTRACT : The infrared spectra, Raman spectra and ultraviolet spectra of a series of individual methylphenylsiloxanes (linear and cyclic disiloxanes, butoxydisiloxanes and linear tetrasiloxanes), prepared by single synthesis (report XV, see RZhKhim., No 20, 1959, No 71548), were studied. The analytical frequencies of single mono- and difunctional groups permitting to conduct analyses of pure substances and mixtures were

CARD: 1/2

COUNTRY	:	
CATEGORY	:	B
ABS. JOUR.	:	RZKhim., No. 1 1960, No. 162
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT cont'd	:	found. The additive characteristics of the absorption bands in infrared and ultraviolet spectra were verified, and the bands suitable for quantitative determination of CH_3-groups (infrared spectra 1,250 cm^{-1}) and phenyl groups (ultraviolet spectra 265 mμ) are recommended. -- K. Setinek
CARD:		2/2

HORAK, M.

CZECH/8-52-11-4/30

AUTHORS: Horák, M., Schneider, B. and Bažant, V.

TITLE: Organo-silicon Compounds (Organokřemičité sloučeniny) XVII. Molecular Spectra of Methylphenyl Siloxanes (XVII. Molekulární spektra methylfenylsiloxanů)

PERIODICAL: Chemické Listy, 1958, Vol 52, Nr 11, pp 2048 - 2055 (Czechoslovakia)

ABSTRACT: Study of the vibration spectra of methylphenyl siloxanes enabled determining the analytical frequency of individual mono-function and di-function siloxane units in the molecule. By means of these frequencies, it is possible to make a qualitative analysis of the individual substances and of mixtures by means of their infra-red and Raman spectra. In their experiments, the authors used compounds prepared synthetically (linear symmetrical methylphenyl tetrasiloxanes and butoxysiloxanes) by means of a method described by Bažant and Beneš (Ref 12). This enabled obtaining extensive experimental information on substances of a guaranteed constitution for which it was possible to verify the individual analytical frequencies in a sufficiently large number of cases. Since the authors anticipated additive properties in individual infra-red absorption bands, they measured the apparent extinction coefficients for all frequencies between 1 250 and 697 cm^{-1}. The carried out quantitative analysis is of importance in studying the progress of reactions of methylphenyl siloxanes (Refs 13,14). The authors verified the additive properties in most of the characteristic bands and established the quantitative analytical bands for the methyl group and the phenyl group in the molecule. In the analysis of ultra-violet spectra, the authors found the existence of good additive properties in the band around 265 mμ. In addition to general determination of the number of methyl groups in the molecule, the used method also enables determining the number of individual siloxane units in the molecule, for instance, of trimethyl siloxane, by determining the apparent extinction coefficient for the bands at 840 and 750 cm^{-1}. Similar additive relations also apply for most of the phenyl frequencies (particularly for the bands 995 - 697 cm^{-1}) and for certain phenylised units, for instance, the triphenyl siloxane unit. However, determination of the real number of phenyl groups in the molecule can be carried out more conveniently by quantitative analysis of the ultra-violet spectra, the accuracy of which is very high (see Table 6), since the ultra-violet spectra of all the methylphenyl siloxanes measured by the authors have the same appearance and they differ only in intensity.

There are 3 figures, 6 tables and 19 references, 2 of which are Czech, 1 Scandinavian, 12 English, 1 Soviet and 3 German.

ASSOCIATION: Oddělení fysikální chemie a Oddělení organické technologie, Chemický ústav, Československá akademie věd, Praha (Physical Chemistry Division and Organic Chemistry Division, Institute of Chemistry, Czechoslovakian Ac.Sc., Prague)

SUBMITTED: March 14, 1958

(4)

HORAK, M.

CZECH/8-52-11-11/30

AUTHORS: Dolejš, L., Souček, M., Horák, M., Herout, V. and Šorm, F.

TITLE: On Terpenes (O terpenech) XCIV. Structure of Lactucine (XCIV. Struktura laktucinu)

PERIODICAL: Chemické Listy, 1958, Vol 52, Nr 11, pp 2094 - 2098 (Czechoslovakia)

ABSTRACT: Lactucine $C_{15}H_{16}O_5$ and its p-hydroxyphenylacetate lactucopicrin $C_{23}H_{22}O_7$ have long been known to be the bitter principles of certain members of the Compositae (e.g. Lactuca virosa, Cichorium intybus). The structure of lactucine was previously examined in detail by Späth and by Wessely in the early 1950's. According to these authors it is a sesquiterpene lactone, which yields on selenium dehydrogenation an uncharacterised azulene. The authors of the present paper state they are able to show that lactucine has a guaianolidine skeleton with an unsaturated lactone ring closed at position 6. On the basis of U.V. and I.R. spectra they formulate a diene system for lactucine situated in the guaianolidine skeleton. One of the hydroxyls of lactucine is a

Card1/2

secondary one on C(8) ; the second is a primary one most likely situated on C(14) . The authors give further evidence for structure I for lactucine in addition to that given previously (Ref 5) and which appeared simultaneously with that of Barton and Narayanana (Ref 6). The authors also propose the absolute configurations of certain asymmetric centres. There are 17 references, 5 of which are Czech, 4 German, 1 Japanese and 7 English.

ASSOCIATION: Oddělení přírodních látek, Chemický ústav, Československá akademie věd, Praha (Division of Natural Products, Institute of Chemistry, Czechoslovakian Ac.Sc., Prague.)

SUBMITTED: June 10, 1958

Card 2/2

HORAK, M.

CZECH/8-52-11-26/30

AUTHORS: Dolejš, L., Souček, M., Horák, M. and Šorm, F.

TITLE: On Terpenes (O terpenech) XCVII. The Constitution of Ledol (XCVII. O konstituci ledolu)

PERIODICAL: Chemické Listy, 1958, Vol 52, Nr 11, pp 2188 - 2190 (Czechoslovakia)

ABSTRACT: Kiryalov (Ref 2) proposed I for ledol ($C_{15}H_{26}O$) a sesquiterpene isolated from Ledum palustre and certain other plants. This structure has been criticised by de Mayo and by Lahey and Lamberton (Ref 4). The latter showed the absence of an absorption band in the region 3024 - 2058 cm^{-1} in the infra-red spectra of ledol, which is characteristic for cyclopropane rings with unsubstituted methylene groups. On the basis of this observation and certain further results, which the authors now report in more detail, two alternative structures, II and III, are proposed, analogous to the structures of globulol and aromadendrene. In the infra-red spectra of ledol and desoxyledol the authors failed to obtain an absorption band of about 1173 cm^{-1}, which corresponds to an isopropyl group. (Desoxyledol is produced from ledol

Card1/8

by hydrogenolysis of the alcohol group. Both Komppa (Ref 9) and Kiryalov (Ref 10) call it dihydroledene and fail to differentiate it from the dehydration and hydrogenation products of ledol. Its infra-red spectrum is similar to aromadendrane and differs fundamentally from the spectrum of kadinane.) The required frequency occurs only in the spectrum of "tetrahydroleddiene". This derivative is produced by the hydrogenation of unsaturated hydrocarbons with two double bonds obtained from ledol by the action of alcoholic H_2SO_4. The reaction leads to the dehydration and degradation of the cyclopropane ring. Chemical evidence also exists which supports II and III. With the opening of the cyclopropane ring with H Br and the dehydrohalogenation of bromo derivative produced with collidine, an unsaturated hydrocarbon was obtained, the ozonisation of which yielded acetone, formaldehyde and a mixture of higher ketones. An absorption band at 1703 cm^{-1} was discovered in the infra-red spectra of the higher ketone mixture, which is

Card2/8

characteristic for carbonyl groups in seven or higher-membered rings. Similar results were also obtained by the ozonisation of the hydrocarbon prepared by the isomerisation of desoxyledol on silica columns. No direct evidence has yet been given for the positioning of the tertiary hydroxyl group on the five-membered ring of ledol. Kiryalov (1951) showed that the hydroxyl is on a carbon which also had a methyl group. After the oxidation of ledene (IV) with $KMnO_4$ (both derivatives are formulated on the basis of the ledol structure for simplicity) the authors isolated, apart from the main product, the diol $C_{15}H_{26}O_2$ already described by Kiryalov (1953) hydroxyketone V in small quantities. This possesses, according to infra-red measurements, a ketogroup in the five-membered ring (absorption band at 1 745 cm^{-1}). Kiryalov observed an interesting transformation on converting the diol $C_{15}H_{26}O_2$ to a decalin derivative (assigned structure VI). This reaction cannot be a simple pinacoline transformation. According to the authors' views, the three-membered ring participates in a reaction with synchronised mechanism, which can only be formulated with certainty on the basis of the formula II for ledol, by the scheme : VII → VIII . The establishing of the actual structure of the decalin derivative and verification of the ledol structure is the subject of further work by the authors.

Experimental. Desoxyledol, "tetrahydroleddiene" and ledene were prepared according to Kirjalov (1951). The products were purified chromatographically on Al_2O_3.

Reaction of Desoxyledol with HBr. Desoxyledol (317 mg) was added with cooling to anhydrous acetic acid (3 ml.) saturated with hydrogen bromide. After 3 hours' shaking at 20 °C the mixture, in which two layers had formed, was poured into water (10 ml.) and the neutral product isolated by the usual procedure. Halogen was determined directly after evaporation.

For $C_{15}H_{27}Br$	Calculated:	27.82% Br
	Found:	2[illegible].7[illegible]% Br.

HORAK, M.

"Quaternary system terephthalic acic - orthophthalic acid - potassium hydroxide - water."

CHEMICKY PRUMYSL, Praha, Czechoslovakia, Vol. 9, No. 3, March 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

HORÁK, M.

Nature of the solvent effect in the infrared spectra of carbonyl compounds. M. Horák, J. Jonáš, and J. Pliva (Czechoslovak Acad. Sci., Prague). *Tetrahedron Letters* 1959, No. 3, 19–23.—The infrared frequencies of the CO stretching vibration of various carboxylic acids, ketones, and aldehydes were measured in a variety of solvents and a linear relationship established between the frequency shifts $\Delta\nu_{CO}$ and the CO stretching frequencies ν_{CO} (C_6H_{12}) for carboxylic acid derivs., RCOX (X = halogen, OR', $NR'R^2$). The linear relation $\Delta\nu_{CO} = A(1 - \alpha\nu_{CO})$ was valid within ±2 cm.$^{-1}$ for BzOH derivs. (A 253.4 cm.$^{-1}$, α 0.5423 × 10^{-3} cm.) and AcOH derivs. (A 380.4 cm.$^{-1}$, α 0.5394 × 10^{-3} cm.) but not valid for ketones and aldehydes. Previously (cf. Exner, *et al.*, *C.A.* 53, 8803*f*) an analogous behavior of RCOX derivs. was observed in correlations between the infrared CO stretching frequencies and the ultraviolet K-band absorption frequencies. The linear relation between the infrared and ultraviolet frequencies was shown to be related to a relationship between Taft's parameters σ_I and σ_R (inductive and mesomeric effects of the substituents X) (*C.A.* 51, 9307*b*). A linear relation $\Delta\nu_{CO} = \Delta_0(1 + a_I\sigma_I + a_R\sigma_R)$ was found to be valid for aldehydes and ketones as well as RCOX compds. For both BzOH and AcOH derivs. the relation is valid with $a_I = 2.1$, $a_R = 2.9$, and the values of the parameters Δ_0 8 cm.$^{-1}$ for R = Ph and Δ_0 11.5 cm.$^{-1}$ for R = Me correspond to the frequency shifts observed for the corresponding aldehydes. The effect of solvents on bond frequencies is dependent on the properties of the solvent and the solute and on their specific interactions. The differences in frequencies found above in nonpolar and polar solvents were related to the polar properties of the substituents directly attached to the bond under observation.

C. R. Addinall

COUNTRY : Czechoslovakia B-4
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. 84900

AUTHOR : Exner, O.; ~~Horak, V.~~
INST. :
TITLE : Infrared Spectroscopy of Derivatives of Carboxylic Acids

ORIG. PUB. : Collect. Czechosl. Chem. Communs, 1959, 24, No 3, 968-977
ABSTRACT : See RZhKhim, 1959, No 16, 56120.

CARD:

CZECHOSLOVAKIA/Optics - Spectroscopy.

Abs Jour : Ref Zhur Fizika, No 4, 1960, 9951 K

Author : Horak, M., Fajkos, J.
Inst :
Title : On Steroids. XLII. Infrared Spectra and Conformation of Steroid Bromhydrines.

Orig Pub : Collect. Czechosl. Chem. Communs, 1959, 24, No 5, 1515-1519

Abstract : The authors investigated the effect of the halogen on the frequency of the hydroxyl maximum in steroid bromhycrines. The results are discussed from the point of view of stereo chemistry of the investigated compounds.

Card 1/1

EXNER, O.; HORAK, M.

Oxime derivatives. V. Determination of the constitution of acyl derivatives of hydroxylamine by infrared spectroscope. In German. Coll.Cz.Chem. 24 no.9:2992-3001 S '59. (EEAI 9:5)

1. Laboratorium fur makromolekulare Chemie und physikalischchemische Abteilung, Chemisches Institut, Tschechoslowakische Akademie der Wissenschaften, Prag.
(Oximes) (Acyl groups) (Hydroxylamine) (Spectrum, Infrared)

HORAK, M.; MUNK, P.

Spectral properties of some unsaturated ketones. In German. Coll.Cz. Chem. 24 no.9:3024-3028 S '59. (MEAI 9:5)

1. Physikalisch-chemische Abteilung, Chemisches Institut, Tschechoslowakische Akademie der Wissenschaften, Prag.
(Ketones) (Unsaturated compounds)

HOLUB, M.; HEROUT, V.; HORAK, M.; SORM, F.

Terpens. CIV. The constitution of betulenols from oil from the buds of white birch. (Betula alba L.) In English. Coll.Cz.Chem. 24 no.11: 3730-3738 N '59. (EEAI 9:5)

1. Department of Natural Products, Institute of Chemistry, Czechoslovak Academy of Science, Prague.
(Terpenes) (Betulinol) (Birch)

Distr: 4E3d

Spectroscopic properties of the gem-dimethyl group on cyclopropane and of the isopropylidene group. M. Horák and J. Pliva (Chemický ústav ČSAV, Prague). *Collection*

Czechoslov. Chem. Communs. 25, 1070–82(1960).—The infrared spectra of compds. with the gem-dimethyl group on the 3-member ring or with the isopropylidene group exhibit only a single band in the symmetrical δ (CH) bending region, in contradiction to the compds. contg. the isopropyl group or the normal gem-dimethyl group. This anomaly is explained from the viewpoint of geometry of both groups.

E. Erlös

SANTAVY, F.; HORAK, M.; MATUROVA, M.; BRABENEC, J.

Contribution to the configuration chelidonines and esplanation of their certain reactions. Coll Cz Chem 25 no.5:1344-1350 My '60.

1. Chemisches Institut, Medizinische Fakultat, Palacky Universitat, Olomouc, und Chemisches Institut, Physikalisch-chemische Abteilung, Tschechoslowakische Akademie der Wissenschaften, Prag.

PITHA, J.; HORAK, M.

Spectroscopic study of the intramolecular interaction of an aliphatic hydroxyl group and a benzene nucleus. Coll Cz Chem 25 no.6:1586-1590 Je '60. (EEAI 10:9)

1. Laboratory of Heterocyclic Compounds and Department of Physical Chemistry, Institute of Chemistry, Czechoslovak Academy of Science, Prague.

(Spectrum analysis) (Aliphatic compounds)
(Hydroxyl group) (Benzene)

SANTAVY, F.; MATUROVA, M.; NEMECKOVA, A.; HORAK, M.

Contribution to the determination of the structure of rheadine.
Coll Cz Chem 25 no.7·1901-1913 Jl '60. (EEAI 10:9)

1. Chemisches Institut, Medizinische Fakultat, Palacky Universitat, Olomouc und Chemisches Institut, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Rheadine)

PITHA, J.; HORAK, M.; KOVAR, J.; BLAHA, K.

Configuration of nitrogens containing compounds. XI. The effect of configuration on the infrared spectra of some aminohydroxytetralins. Coll Cz Chem 25 no.11:2733-2745 N '60. (EEAI 10:6)

1. Laboratory of Heterocyclic compounds and Institute of Chemistry, Czechoslovak Academy of Science, Prague.
(Nitrogen) (Spectrum, Infrared) (Amino group)
(Hydroxy compounds) (Tetrahydronaphthalene)

HORAK, M.

Distr: 4E2c(j)/4E3d

Organosilicon compounds. XX. Determination of the basicity of the silicon-bound oxygen by infrared spectroscopy. M. Horák, V. Bažant, and V. Chvalovský (Ústav org. chemie a biochemie ČSAV, Prague). *Collection Czechoslov. Chem. Communs* 25, 2822–30(1960)(in German). cf. *CA* 54, 24478a.—The formation of the H-bond between various proton donors and isostructural alkyl ethers, alkoxysilanes, and siloxanes was studied. The basicity of the O atoms decreases in the series of groups: COC, COSi, and SiOSi; this effect is attributed to the partial formation of the multiple bond in the SiO group. The induction and steric effects of alkyl groups on H-boud formation were studied. E. Erde—

4
AW(C,H)
JAJ(AB)(MAP)
2

KNIZEK, J.; CHVALOVSKY, V.; HORAK, M.

Organosilicon compounds. Pt. 37. Coll Cz Chem 29 no.12:2915-2949 D '64.

1. Research Institute of Organic Syntheses, Pardubice-Rybitvi.

PINSKER, P.; BULTASOVA, H.; HORAK, M.

21-desocycorticosteroids in postnatal adrenal virilism and hirsutism. Cas.lek.cesk.99 no.40:1280-1281 30 S'60.

1. Interni katedra UDL, oddeleni experimentalni terapie, prednosta doc. MUDr. O.Smahel. Ustredni biochemicka laborator fakultni nemocnice v Hradci Kralove, prednosta MUDr. J.Jicha.
(ADRENOGENITAL SYNDROME urine)
(ADRENAL CORTEX HORMONES urine)

PITHA, J.; PLESEK, J.; HORAK, M.

Condensation reaction of aldols. Part 5: Configuration of derivates of 2,3-cyclohexano-(1,3,3)-bicyclononan-2-CL-9-ONS. Coll Cz Chem 26 no.4: 1209-1212 Ap '61.

1. Institut fur organische Chemie und Biochemie, Tschechoslowakische Akademie der Wissenschaften, Prag. 2. Jetzige adresse: Fa. Dental, Prag (for Plesek)

(Adols)

HORAK, M.; GUT, J.

Nucleic acids components and their analogues. XI. Infrared spectroscopy of uracil, 6-azauracil and their derivatives in the carbonyl group stretching vibration region. Coll Cz chem 26 no.6:1680-1693 Je '61.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Science, Prague.

(Uracil) (Triazinediones)

HORAK, M.

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague

Source: Prague, Collection of Czechoslovak Chemical Communications, Vol 26, No 11, November 1961, pp 2891-2896

Data: "Spectroscopic Study of the Hydrogen Bond in Substituted 2-Nitrophenols."

Authors:

HORAK, M
SMOLIKOVA, J
PITHA, J

CZECHOSLOVAKIA

HORAK, M.

Czechoslovakia

Central Laboratory of the Faculty Hospital KUNZ (Ustredni laborator fakultni nemocnice KUNZ Hradec Kralove), Hradec Kralove; Director: Josef JICHA, MD.

Brno, Vnitrni lekarstvi, No 10, Oct 62, pp 1113-1119.

"Assay of Barbiturate Level in Blood and Urine."

Co-authors:

JICHA, J., MD, Director, Central Laboratory of the Faculty Hospital KUNZ, Hradec Kralove; LICHY, J. Neurology Clinic of the Medical Faculty KU, Hradec Kralove (Neurologicka klinika lekarske fakulty KU v Hradci Kralove), Director: Miroslav SERCL, MD, ScD.

JONAS, J.; HORAK, M.; PISKALA, A.; GUT, J.

Nucleic acid components and their analogues. Part 26: Ultraviolet and infrared spectra of 5-azauracil and related compounds. Coll Cz Chem 27 no.12:2754-2760 D '62.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

CZECHOSLOVAKIA

HORAK, M; SMEJKAL, J; FARKAS, J.

Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 9, 1963, pp 2280-2292

"Infrared Spectra of Compounds Containing a Cyclopropane Ring."

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CZECHOSLOVAKIA

HORAK, M; GUT, J.

Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 12, 1963, pp 3392-3400

"Nucleic Acids Components and their Analogues. XLII. The Infrared Spectra of 6-Azauracil and its Derivatives.

PINSKER, Premysl; BULTASOVA, Helena; HORNACEK, Jaroslav; HORAK, Miroslav

Pathogenesis of adrenal hyperplasia. Cas. lek. cesk. 96 no.42:1325-1333 18 Oct 57.

1. I. interni klinika VIA v Hradci Kralove. Interni katedra Ustavu pro doskolovani lekaru v Praze. Vyzkumny ustav pro farmacil a bichemii v Praze. Ustredni zdravotnicka laborator VIA v Hradci Kralvoe.
P. P., Hradec Kralove, VIA

(ADRENAL GLANDS, dis.
hyperplasia, etiopathogen. (Cz))
(HYPERTROPHY AND HYPERPLASIA, etiol. & pathogen.
of adrenal hyperplasia (Cz))

CIHULA, J.; SEVCIK, K.; HORAK, M.

Urinary excretion of total neutral 17-ketosteroids in puberal males according to age. Cesk. pediat. 13 no.4:308-310 5 May 58.

1. Detska klinika VIA J. E. P., predn. prof. Dr. Jiri Blecha.
(17-KETOSTEROIDS, in urine
in puberal males (Cz))

HORAK, M.; JICHA, J.

Electrophoretic separation of urobilinoid. Cesk. fysiol. 7 no.5:473 Sept 58.

1. Ustredni biochemicka laborator VIA JMVP v Hradci Kralove.
(UROBILINOGEN, determ.
electrophoresis (Cz))

CIHULA, J.; BERGER, E.; HORAK, M.

Addison's syndrome in childhood. Cesk. pediat. 14 no.11:981-987 November 59.

1. Katedra detskeho lekarstvi fakultni nemocnice KUNZ v Hradci Kralove, prednosta prof. dr. J. Blecha Detske oddeleni nemocnice ve Vrchlabi, primar dr. E. Berger Centralni laboratore fakultni nemocnice, prednosta dr. J. Jicha.
(ADDISON DISEASE, in inf. & child)

PINSKER, P.; HORAK, M.; BULTASOVA, H.; HORNACEK, J.

Accelerated breakdown of cortisol in postnatal adrenocortical hyperplasia. Cas. lek. cesk. 98 no.23:705-707 5 June 59.

1. I. interni klinika a Ustredni biochemicka laborator fakultni nemocnice v Hradci Kralove, interni katedra Ustavu pro doskolovani lekaru v Praze-Krci a Vyzkumny ustav pro farmacii a biochemii v Praze P.P., Hradec Kralove, I. Interni klinika.

(ADRENAL CORTEX, dis.
postpartum hyperplasia, accelerated breakdown of hydrocortisone in (Cz))
(HYDROCORTISONE, metab.
accelerated breakdown in postpartum adrenocortical hyperplasia (Cz))

CIHULA, J.; HORAK, M.

Adrenal cortex function tests in childhood. Cesk.pediat.15 no.11: 998-1005 N'60.

1. Detska klinika lekarske fakulty university v Hradci Kralove, prednosta prof.dr. J.Blecha a Ustredni biochemicke laboratore KUNZ, prednosta dr. J. Jicha.
(ADRENAL CORTEX physiol)

PINSKER,P.; HORAK,M.; BULTASOVA,H.

Contribution to the laboratory diagnosis of Cushing's syndrome in a malignant tumor of the adrenal cortex. Cas. lek. cesk. 99 no.25:772-776 17 Je '60.

1. I. interni klinika lekarske fakulty KU v Hradci Karlove, prednosta prof. MUDr. Jan Rehor. Ustredni biochemicke laborator fakultni nemocnice KUNZ v Hradci Kralove, prednosta MUDr. Josef Jicha, Interni katedra UDL Praha, prednosta doc. MUDr. Otakar Smahel.

(ADRENAL CORTEX neopl.)
(CUSHING'S SYNDROME diag.)

JICHA, Josef; HORAK, Miroslav; PLACHY, Vladimir; BLECHOVA, Dagmar

Activity of lactic and malic acid hydrogenases in the blood serum of newborn infants and their relation to some products of hemolysis. Sborn. ved. prac. lek. fak. Karlov. univ. (Hrad Kral) 4 no.5:615-622 '61.

1. Ustredni biochemicka laborator; prednosta MUDr. J. Jicha Detska klinika; prednosta prof. MUDr. J. Blecha Porodnicko-gynekologicka klinika; prednosta prof. DrSc. MUDr. J. Pazourek.
(LACTATE DEHYDROGENASE) (MALATE DEHYDROGENASE)
(INFANT NEWBORN) (BLOOD CHEMICAL ANALYSIS)
(UMBILICAL CORD) (HEMOLYSIS)

LICHY, J.; HORAK, M.; JICHA, J.; ZDRAHAL, L.

The transaminase of glutamic-pyruvic acid (GPT) in myopathies. Cesk. neur. 24 no.3:198-204 My '61.

1. Neurologicka klinika lekarske fakulty KU v Hradci Kralove, prednosta prof. dr. Sc. MUDr. Sercl - Ustredni biochemicka laborator lekarske fakulty KU v Hradci Kralove, prednosta MUDr. J. Jicha.

(TRANSAMINASES blood) (MUSCULAR DYSTROPHY blood)

HORAK, M.

3

Czechoslovakia

Central Laboratory of the Faculty Hospital KUNZ (Ustredni laborator fakultni nemocnice KUNZ Hradec Kralove), Hradec Kralove; Director: Josef JICHA, MD.

Brno, Vnitrni lekarstvi, No 10, Oct 62, pp 1113-1119.

"Assay of Barbiturate Level in Blood and Urine."

Co-authors:

JICHA, J., MD, Director, Central Laboratory of the Faculty Hospital KUNZ, Hradec Kralove; LICHY, J. Neurology Clinic of the Medical Faculty KU, Hradec Kralove (Neurologicka klinika lekarske fakulty KU v Hradci Kralove), Director: Miroslav SERCL, MD, ScD.

CIHULA, J.; HORAK, M.

Determination of the function of the adrenal cortex in hypopituitarism and hypocorticalism. Cesk pediat 17 no.2:105-115 F '62.

1. Detska klinika lekarske fakulty University Karlovy v Hradci Kralove, prednosta prof. dr. J. Blecha, a Ustredni biochemicke laboratore KUNZ, prednosta dr. J. Jicha.

(PITUITARY GLAND dis) (ADRENAL GLANDS dis)

HODR, Roman; HORAK, Miroslav; JICHA, Josef; BLECHOVA, Ingrid

The activity of some blood enzymes in healthy newborn infants. Sborn. ved. prac. lek. fak. Karlov. univ.: Suppl. 8 no.4: 455-461 '65.

The activity of some blood enzymes in newborn infants with hemolytic diseases. Ibid.:463-469

1. Detska klinika (prednosta prod. MUDr. J. Blecha, DrSc.), Ustredni biochemicka laborator (prednosta MUDr. J. Jicha) a Gynekologicko-porodnicka klinika (prednosta prof. MUDr. K. Vacha, DrSc.).

CZECHOSLOVAKIA

JANOUSKOVA, M; HORAK, M; CHVALOVSKY, V.

1. Institute for Chemical Process Fundamentals, Czechoslovak Academy of Sciences, Prague (for Janouskova and Chvalovsky). 2. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague (for Horak)

Prague, Collection of Czechoslovak Chemical Communications, No 3, March 1966, pp 979-996

"Organosilicon compounds. Part 16: Infrared spectra of silyl- and silylmethyl-substituted cyclopropane derivatives".

HODR, Roman; HORAK, Miroslav; JICHA, Josef; BLECHOVA, Dagmar

Bilirubin fractions in healthy newborns and in newborns with hemolytic disease. Sborn. ved. prac. lek. fak. Karlov. Univ. 8 no.3:347-356 '65.

1. Detske klinika (prednosta: prof. MUDr. J. Blecha, DrSc); Ustredni biochemicka laborato (prednosta: MUDr. J. Jicha) a Gynekologicko-porodnicka klinika (prednosta: prof. MUDr. K. Vacha, DrSc.) Karlovy University v Hradci Kralove.

CIHULA, J.; HORAK, M.

Pituitary adrenocortical hypofunction in children following prednison treatment. Cesk. ped. 20 no.12:1041-1047 D '65

1. Detska klinika lekarske fakulty Karlovy University v Hradci Kralove (prednosta - prof. dr. J. Hlecha, DrSc.) a Centralni biochemicke laboratore Krajskeho ustavu narodniho zdravi Vychodoceskeho kraje v Hradci Kralove (vedouci MUDr. J. Jicha).

CZECHOSLOVAKIA

HORAK, M.; POLAKOVA, J.; JAKOUBKOVA, M.; MORAVEC, J.; PLIVA, J.

1. Institute for Chemical Process Fundamentals, Czechoslovak Academy of Sciences, Prague (for Jakoubkova); 2. Nuclear Research Institute, Czechoslovak Academy of Sciences, Rez near Prague (for Moravec); 3. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague (for Horak, Polakova, Pliva)

Prague, Collection of Czechoslovak Chemical Communications, No 2, Feb 1966, pp 622-639

"Studies of solute-solvent interactions. Part 3 : Solvation of donor-acceptor complexes of phenols with basic solvents."
(Presented in part at the Seventh European Congress on Molecular Spectroscopy, Budapest, July 1963.)

ACC NR: AP6009357 (A) SOURCE CODE: CZ/0078/65/000/011/0021/0021

AUTHOR: Kovar, Vitezslav (Engineer); Horak, Oldrich (Engineer); Matousek, Jiri (Engineer; Candidate of Sciences); Hala, Slavomir (Brno)

ORG: none

TITLE: Production of phosgene from carbon tetrachloride. CZ Pat. No. PV 6709-62, Class 42

SOURCE: Vynalezy, no. 11, 1965, 21

TOPIC TAGS: phosgene, carbon compound, vaporization

ABSTRACT: An Author Certificate has been issued for a low-concentration phosgene-producing unit. It includes a drying tower with a two-branch outlet pipe. One branch is connected, via a flowmeter, to a vaporizer containing carbon tetrachloride; the vaporizer, in turn, is connected to an electrically heated retort where the phosgene is produced from the vapors of carbon tetrachloride and air oxygen. The other branch is connected, via another flowmeter, to a mixer, which in turn, is connected to the phosgene producing retort. [KP]

SUB CODE: 07 SUBM DATE: 29Nov62/

Card 1/1

HORAK, O.

"An interesting breakdown in the process of removing paraffins from mineral oils by means of solvents according to the Barisol method."

p. 305 (Chemicky Prumysl) Vol. 7, no. 6, June 1957
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

Z/009/63/000/001/005/006
E112/E535

AUTHORS: Dušek, K. and Horák, O.

TITLE: Conference on some problems of macromolecular chemistry

PERIODICAL: Chemický průmysl, no.1, 1963, 53-54

TEXT: The conference, organised by the Ústav makromolekulární chemie ČSAV (Institute of Macromolecular Chemistry, ČSAV) was held in Prague in September 1962. There were three independent sections. In Section I, relating to macromolecular structures and mechanical properties, the following subjects were reported on: V. Svoboda and O. Karásek (VÚSK, Gottwaldov): effects of "spherical" purity of polydienes on their physical properties; K. Dušek (VÚSPL, Pardubice): elastic properties of styrene and divinylbenzene copolymers; J. Majer and Stejný (VÚMCH, Brno): thermal history of paraformaldehyde and the effect on its properties; J. Hugo and M. Jirouš (SVÚMT, Prague): rheological studies for determining the mechanical properties of polyvinylchloride; M. Možíšek (VÚGPT, Gottwaldov): determining the dispersion of elastomers by tracer elements; L. A. Igonin (NIIPM, Moscow): effects of macromolecular

Card 1/4

Conference on some problems of ... Z/009/63/000/001/005/006
E112/E535

structures on the mechanical properties of crystalline pdymers; V. Zilvar, J. Boukal and J. Hell (SVÚMT, Prague): structure and properties of alkaline polyamides compared to hydrolytic polyamide; N. F. Bakeyev (Leningrad): structural peculiarities of various macromolecular spherulites, e.g. poly-ethylenesebacate; Z. Pelzbauer (ÚMCH ČSAV,Prague): study of the macromolecular structure of caprolactam by electron microscopy and electron diffraction.

In Section II, relating to the study of polymers by physical and physico-chemical methods, the following subjects were reported on: M. Bohdanecký (ÚMCH ČSAV, Prague): possibility of indirect determination of constant K in Mark-Kuhns' equation; P. Munk and P. Lesse (ÚMCH ČSAV, Prague): new methods for the determination of diffraction during flow; J. Moravec (VÚGPT, Gottwaldov): study of various viscometers; M. Bohdanecký, P. Kratochvil, P. Munk, O. Quadrat (ÚMCH ČSAV): aggregation of molecules, determined by viscosity, light-scattering and diffraction methods during melt-flow; M. Hloušek (VÚMCH, Brno): determination of polydispersion of latex particles by means of scattering of transmitted light; M. Kubín and E. Prokopová (ÚMCH ČSAV, Prague): synthetic gels for

Card 2/4

the separation of high- and low-molecular weight substances; J. Poláček (ÚFCH ČSAV, Prague): modification of the Baker-Williams fractionation column; J. Biroš and J. Pouchlý (ÚMCH ČSAV, Prague): new microcalorimeter and ebulliometer with thermistor recording; J. Jokl (ÚMCH ČSAV, Prague): infrared studies of the structure of polycaprolactam; D. Doskočilová (ÚMCH ČSAV, Prague): newer determination of the structure of poly-γ-methyl-ε-caprolactam by infrared spectrography; J. Jakeš (ÚMCH ČSAV): effects of non-homogeneity of solid polymer dispersions on absorption spectra; F. Rybnikář (VÚGPT, Gottwaldov): secondary crystallisations in samples of polypropylene and polyamides; Z. Menčik (VÚMCH, Brno): crystalline structure of polyethylene-2,6-dinaphthionate; H. Prokopová and Z. Pelzbauer (ÚMCH ČSAV, Prague): microscopic studies of polyvinyl particles.

In Section III, relating to accelerated polymerisation of caprolactam, the following subjects were reported on: J. Stehlíček (ÚMCH ČSAV, Prague): catalysts for the alkaline polymerisation of caprolactam; A. P. Grekov (USSR): accelerated polymerisation of caprolactam in solvents; P. Čefelín (ÚMCH ČSAV): polymerisation of pure γ-methyl-6- caprolactam, using tetraacetyl-

Conference on some problems of ... Z/009/63/000/001/005/006
E112/E535

hexamethylenediamine as accelerator; B. Lánská (ÚMCH ČSAV): study of structure of imido-groups in polycaprolactam; J. Šebenda (ÚMCH ČSAV): effect of end-groups on the viscosity characteristics of polycaprolactam solutions; N. M. Malinko (USSR): infrared analysis of the structure of polycaprolactam, prepared by accelerated polymerisation; B. Puffr (ÚMCH ČSAV): equilibrium studies of the adsorption of water by polycaprolactam; P. Schmidt (ÚMCH ČSAV): infrared analysis of the effects of water on polycaprolactam; J. Tomka (ÚMCH ČSAV): morphological study of the structure of polycaprolactam: V. A. Sergeyev (USSR): practical procedures for the production of polycaprolactam by the accelerated polymerisation method; J. Výlet (VÚGPT, Gottwaldov): pilot-plant results with the alkaline block polymerisation of caprolactam.

ASSOCIATION: Výzkumný ústav syntetických pryskyřic a laků (Research Institute of Synthetic Paints and Resins)

Card 4/4

KOVAR, Vitezslav; HORAK, Oldrich; MATOUSEK, Jiri

Tube detectors of industrial polluting agents for the continued control of the atmosphere. Chem prum 14 no.12:663-665 D '64

1. Antonin Zapotocky Military Academy, Brno.

L 31594-66 EWP(h)/EWP(l) RO

ACC NR: AP6022961 SOURCE CODE: CZ/0008/65/000/009/1070/1073

AUTHOR: Kovar, Vitezslav; Horak, Oldrich; Hatousek, Jiri

ORG: Antonin Zapotocky Military Academy, Brno (Vojenska akademie Antonina Zapotockeho)

TITLE: Apparatus for continuous preparation of low phosgene concentrations in air

SOURCE: Chemicke listy, no. 9, 1965, 1070-1073

TOPIC TAGS: phosgene, safety engineering

ABSTRACT: The authors designed an apparatus for testing analytical devices that are used for industrial safety applications. It can be also used for biological experimentation. Carbon tetrachloride is oxidized in an electrically heated platinum probe by a stream of air. The concentration of phosgene in the stream of air is regulated by the temperature of the probe, while the amount of air remains constant. The concentration of phosgene can be regulated between 0.1 and 10 micrograms per liter of air. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 13, 07 / SUBM DATE: 22Jul64 / ORIG REF: 001 / OTH REF: 001

Card 1/1 BLG

L 42279-66

ACC NR: AP6031475 SOURCE CODE: CZ/0008/66/000/003/0347/0349

AUTHOR: Kovar, Vitezslav; Horak, Oldrich; Matousek, Jiri

ORG: Antonin Zapotocky Military Academy, Brno (Vojenska akademie Antonina Zapotockeho)

TITLE: Apparatus for continuous preparation of low concentrations of hydrogen cyanide and cyanogen chloride in air

SOURCE: Chemicke listy, no. 3, 1966, 347-349

TOPIC TAGS: cyanide, cyanogen compound, chemical laboratory apparatus

ABSTRACT: The apparatus can be adjusted to produce desired concentrations of the substances in air. Hydrocyanic acid and cyanogen chloride are supplied from the decomposition of formamide vapors in a special electrically heated cell containing aluminum oxide. The concentrations can be adjusted within the limits of 1.10^{-3} and 5.10^{-2} mg of hydrocyanic acid or cyanogen tetrachloride in a liter of air. Cyanogen chloride is produced by hydrocyanic acid in a special chlorinating tube. Orig. art. has: 2 figures. [Based on authors' Eng. abst.] [JPRS: 36,002]

SUB CODE: 07 / SUBM DATE: 07May65 / ORIG REF: 001 / OTH REF: 001

Card 1/1

HORAK, O.; DOBERSKA, M.; MAYER, M.

Survey of surgical intervention on the spleen and their results at the First Surgical Clinic, 1939-1951. Roshl. chir., 31 no. 6-8: 144-155 1952. (CIML 23:3)

1. Of the First Surgical Clinic (Head--Prof. Arnold Jirasek, M. D.) of Charles University, Prague.

HORAK, Oldrich, MUDr

Dispensary services in hypertension. Prakt. lek., Praha 34 no.21: 481-484 5 Nov 54.

1. Ustav pro choroby obehu krevniho, Praha-Krc; reditel prof. MUDr K.Weber.
(HYPERTENSION, therapy,)

HORAK.

BERGMANN, K.; HLAVOVA, A.; HORAK, O.

Therapy of hypertension in out-patients with DH-ergotoxine. Cas. lek. cesk. 44 no.10:237-240 4 Mar 55.

1. Ustav pro choroby obehu krevniho, Praha; red. prof. Dr. Kl.Weber

(ERGOT ALCALOIDS, ther. use
dihydrogenated deriv. in hypertension in out-patients)
(HYPERTENSION, therapy
dihydrogenated ergot alcaloids in out-patients)

PRAT, Vladimir; HORAK, Oldrich

Unilateral kidney disease & hypertension. Cas. lek. cesk. 97 no.13: 403-409 28 Mar 58.

1. Ustav pro choroby obehu krevniho v Praze-Krci, reditel prof. Dr K. Weber. Adres Autora: Vl. P., Praha- Krc, Budejovicka 800.
(HYPERTENSION, statist.
renal hypertension (Cz))

HORAK, Oldrich

Clinical care in ischemic disease of the heart. Cas.lek.cesk. no.13:405-410 '60.

1. Ustav pro choroby obehu krevniho, Praha-Krc, reditel prof. Dr.Sc.Kl. Weber.
(CORONARY DISEASE ther.)

HORAK, OLDRICH

(1)

PRAT, Vladimir

Czechoslovakia

Institute for Circulatory Diseases (Ustav pro choroby obehu krevniho v Praze-Krci), Prague; Director: Jan BROD, Docent DSc, MD.

Brno, Vnitrni lekarstvi, No 10, Oct 62, pp 1055-1061.

"A Comparison of Bacteriological Findings in the Urine in Chronic Pyelonephritis and Chronic Glomerulonephritis."

Co-author:

HORAK, Oldrich, Institute for Circulatory Diseases, Prague.

(2)

"PRAT, V.; BROD, J.; BENESOVA, D.; DEJDAR, R.; FENCL, V.; HORAK, O.; CERVINKA, F.; KRATOCHVILOVA, J.; PAVKOVA, L.

Research on chronic pyelonephritis during the first ten years of the Institute for Cardiovascular Research. Rev. czech. M. 8 no.2: 113-123 '62.

1. Institute for Cardiovascular Research, Prague; Director: Academician K. Weber, Department of Morbid Anatomy and Microbiology, Faculty of Paediatrics, Charles University, Prague; Head: Doc. Dr. D. Benesova, Institute of Clinical and Experimental Surgery, Prague; Director: Prof. Dr. B.Spacek.

(PYELONEPHRITIS statistics)

S/081/62/000/001/055/067
B158/B101

AUTHORS: König, Erich, Horák, Otakar

TITLE: Lubricating oils from hydrogenated fraction of Mukhanovo and Romashkino petroleum mixture

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1962, 446, abstract 1M160 (Ropa a uhlie, v. 3, no. 5, 1961, 138)

TEXT: A hydrogenated fraction (d_4^{20} 0.865, viscosity 20.7 centistokes/50°C) of a mixture of Mukhanovo and Romashkino petroleums is deparaffinated in a solution of dichloroethane mixed with benzine; 81% of deparaffinated fraction is obtained which, after refining with 1.1% bleaching clay at 200-210°C had d_4^{20} 0.877, viscosity 26.7, viscosity index 91, flash point 198°C, solidification point -6°C, acid number 0, cokability 0.14. Mixing 67% of the refined hydrogenated fraction with 33% heavy selectively refined oil from Saratov petroleum gave a motor fuel. A turbine oil

Card 1/2

S/081/62/000/001/055/067
B158/B101

Lubricating oils from...

(d_4^{20} 0.872, viscosity 25.1 centistokes, viscosity index 95, solidification point -8°C, cokability 0.046%) was obtained from another deparaffinated sample of the hydrogenated fraction refined with 15% conc. H_2SO_4, 4% NaOH in water and 1.5% bleaching clay. This turbine oil meets the requirements of the OT-T3 (OT-T3) standards. [Abstracter's note: Complete translation.]

Card 2/2

HORAK,P.; ZYKA,J.

Indirect photometric determination of alkaloids after prior chromatographic separation. IV. Chromatographic separation of tropane alkaloids. Cesk.farm. 12 no.8:394-398 0'63.

1. Vyzkumny ustav prirodnich leciv, Praha, Katedra analyticke chemie Karlovy university, Praha.

HORAK,P.

Chromatographic-photometric determination of individual lanatosides in dried leaves of Digitalis lanata Ehrh. Cesk. farm. 12 no.8:398-403 0'63.

1. Vyzkumny ustav prirodnich leciv, Praha.

HORAK,P.

Determination of takadieastase activity towards desacetyl lanatosides. Cesk. farm 13 no.3:114-117 Mr '64.

1. Vyzkumny ustav prirodnich leciv, Praha.

BLAZEK, Z.; BOSWART, J.; HORAK, P.; KUCERA, M.

Variation of alkaloid content in Ergot sclerotium during 24 hours.
Cesk. farm. 2 no.7-8:231-233 Aug 1953. (CIML 25:4)

1. Of the Research Institute of Medicinal Plants, Prague.

The amount and distribution of alkaloids in the sclerotium of Claviceps purpurea. Z. Blaicek, J. Bowart, P. Horák, and J. Kybal (Inst. Med. Plant Invest., Prague). *Pharmazie* 8, 502–6(1953).—Larger (heavier) sclerotia have higher alkaloid content than smaller; this is explained as resulting from the different nutrition both qualitatively and quantitatively of the host plant. The external dark pigmented layers of the sclerotia are richer in alkaloids than the internal white layers of plectenchyma. There is apparently also a higher content of alkaloids in the basal part of the sclerotium than in the apical. The small apical caps (remains of spinacella stage), sometimes present, contain practically no alkaloid. The leucosclerotia (whitish sclerotia) have a lower alkaloid content than the normal dark colored.

G. M. Hocking

HORAK, P.

JINDRA, A.; BOSWART, J.; KUCERA, M.; HORAK, P.

Determination of tropa alkoloids in drugs. Cesk.farm. 3 no.4: 131-133 Ap '54.

1. Z Vyzkumneho ustavu lecivych rostlin (VULERO) v Prase.
(ALKOLOIDS, determination,
*in drugs)